

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

08/15/80
AIP49

EXC...
AUG 29 1984
H. H.

Pest Management News

Number 47

July 1984

OFFICIAL NEWSLETTER OF THE INTEGRATED PEST MANAGEMENT RESEARCH, DEVELOPMENT AND APPLICATIONS PROGRAM
2500 SHREVEPORT HIGHWAY · PINEVILLE, LOUISIANA 71360

Predictions Workshops Held

The IPM Program, in cooperation with Region 8's Forest Pest Management group, conducted three workshops during March and April 1984. The workshops focused on the southern pine beetle and emphasized hazard rating, trend prediction, spot growth, and economics. The Texas A&M SPB Decision Support System and Region 8's IPM Decision Key were also covered along with prediction and economic models for fusiform rust and annosus root rot. The purpose of the workshops was to present the latest technology to State and Federal pest management and extension specialists so that they could, in turn, conduct local workshops and training sessions to get the information to field personnel in their respective areas. The general outline for the training was: Best Pest Management Practices (G. N. Mason and G. D. Hertel), Introduction to Computer Terminals (R. J. Uhler), Hazard Rating (G. N. Mason and W. H. Hoffard), Trend Models (W. H. Hoffard and G. N. Mason), Spot Growth Models (M. C. Connor and G. D. Hertel), Management Systems (M. K. Saunders, K. M. Swain, W. H. Hoffard), Economics/Disease Models (G. N. Mason, R. J. Uhler, C. H. Redmond).

The tabulation that follows gives a breakdown of the models presented in the workshops. (For additional information on these models, refer to the special edition of PM News for a detailed discussion of those marked with an *.)

Models	Workshop locations	Purpose
<i>Hazard Rating</i>		
TFS Grid Hazard	1 2 3	To rate relative susceptibility of Texas Forest Service grid blocks to SPB infestation.
Arkansas Hazard	2	To estimate relative susceptibility of Ark. pine stands to SPB attack.
Texas Hazard	1 2	To rate relative susceptibility of pine stands to SPB attack and timber loss.

*National Forest Risk	1 2 3	To rate relative risk of pine stands to SPB attack on NF lands.
*Mississippi Hazard B		To determine the relative hazard of timber stands to SPB attack.
*Piedmont Risk	1 3	To rate natural stands in the Piedmont for losses due to SPB.
Mountain Risk	1 3	To evaluate forest stands in the southern Appalachians for susceptibility to SPB.
<i>Trend Models</i>		
Aerial Georgia	1 3	To predict the number of SPB spots per acre in a given year for the Ga. Piedmont.
Southeast Surveil	1 2 3	To project the percentage of the southeastern US with SPB activity in current year based on observations in subsample areas.
Southeast Predict	1 2 3	To predict SPB infestation coverage over the Southeast for next year.
*SPB Comp	1 2 3	To predict a change in SPB-infested area from the previous year for specified multicounty climatic districts.
<i>Spot Growth</i>		
Agr. Handbook 558	1 2 3	To establish control priorities.
*TFS Spot Growth	1 2 3	To predict tree mortality associated with the spread of individual SPB infestations during summer months.
E/A Ratio	3	To predict the relative increase in number of beetle-infested trees spot-by-spot for 3 to 6 months.

PROCUREMENT SECTION
CURRENT & PAST RECORDS

SEP 5 1984

Models	Workshop locations	Purpose
<i>Spot Growth</i>		
*TAMBEETLE	1 2 3	To predict short term growth potential of existing SPB spots.
*Arkansas	1 2 3	To predict short term (1-3 months) SPB population growth, tree mortality, and associated timber volume and monetary loss in currently infested loblolly and/or short-leaf pine stands.
<i>Management Systems</i>		
IPM Decision Key	1 2 3	To provide up-to-date list of available management options for reducing losses to insects and diseases and eliminate need to search for information applicable to different management situations.
*SPB Decision Support	1 2 3	To help forest and pest managers to access latest technology on stand and SPB management in an organized, interactive manner.
*CLEMBEETLE	1 2 3	To simulate expected SPB loss for (a) single or multiple stand(s) for periods as short as a year or as long as a rotation.
<i>Other</i>		
*Fusiform Rust Yield	1 2 3	To predict yields for unthinned slash pine plantations infected with fusiform rust.
SPB Economics (SPBEEP)	1 2 3	To analyze the economic benefit/costs associated with SPB control projects.
Annosus (borax treatment)	1 2 3	To provide an economic assessment for using borax stump treatment while thinning pine stands on high hazard annosus root rot sites.

1 Doraville, GA

2 Pineville, LA

3 Asheville, NC

* See special edition of Pest Management News, Number 46.

The training sessions were held in Doraville, GA, Pineville, LA, and Asheville, NC. Participants in each session are listed below. Information regarding specific models or their application in your area can be obtained by contacting these local specialists.

Doraville

Roger Webb, Forestry Extension, University of Florida, Tele: 904/392-1850

Wayne Dixon, Florida Division of Forestry, Tele: 904/372-3505

Terry Price, Georgia Forestry Commission, Tele: 912/744-3241

Kerry Thomas, Georgia Forestry Commission, Tele: 912/744-3241

Debbie Allen, Forest Pest Management, Doraville, Tele: 404/221-4796

Pineville

Gus Nachod, Louisiana Office of Forestry, Baton Rouge, Tele: 504/925-4502

Joe Pace, Texas Forest Service, Lufkin, Tele: 409/632-7761

Ron Billings, Texas Forest Service, Lufkin, Tele: 409/632-7761

Wes Nettleton, Forest Pest Management, Pineville, Tele: 318/473-7287

Jim Smith, Forest Pest Management, Pineville, Tele: 318/473-7290

Forest Oliveria, Forest Pest Management, Pineville, Tele: 318/473-7394

Jim Hyland, Alabama Forestry Commission, Montgomery, Tele: 205/261-2547

Bill Lambert, Mississippi Forestry Commission, Jackson, Tele: 601/359-1386

Gary Schaeffer, Mississippi Forestry Commission, Jackson, Tele: 601/359-1386

Asheville

John Ghent, Forest Pest Management, Asheville, Tele: 704/258-0625

Bill Carothers, Forest Pest Management, Doraville, Tele: 704/221-4796

Pat Barry, Forest Pest Management, Asheville, Tele: 704/259-0625

Caleb Morris, Virginia Division of Forestry, Charlottesville, Tele: 804/977-6555

Coleman Doggett, North Carolina Forest Service, Tele: 919/733-4141

Chet Karpinski, Clemson University, Tele: 803/656-3303

Don Rogers, North Carolina Forest Service, Morganton, Tele: 704/437-2517

Don Ham, South Carolina Forestry Extension, Clemson University, Tele: 803/656-2478

Hertel Cited by Southern Station

Gerry Hertel, IPM Applications Coordinator, was recently recognized with a Certificate of Merit and cash award by the Southern Forest Experiment Station and the IPM Program for his outstanding contribution to the planning, execution, and coordination of Program activities. Under Gerry's leadership, technology transfer activities have been planned and executed to expedite the transfer of new or improved information, develop displays and visual aids, provide training to Federal and State pest management specialists, and incorporate new methods and materials into management plans and operations in several organizations. Gerry has made great strides and plowed new ground in making a unique contribution to the advance of integrated pest management in southern pine forests according to Program Manager Robert Thatcher.

SC Release Promotes Portable Sawmill

The IPM Project in South Carolina recently issued a leaflet entitled "Portable Sawmill Converts SPB-Killed Pines to Lumber." This Fact Sheet describes the S.C. Forestry Commission's cooperative project with USDA Forest Service and Clemson University. Included is a list of Commission project foresters in each SC county that may be contacted for sawmill lease information. The leaflet was prepared by Mike Remion and is available from the South Carolina Forestry Commission, P.O. Box 21707, Columbia, SC 29221.

Annosus Root Rot Sampling Procedure Developed

A new sampling procedure for determining the incidence of infection by annosus root rot in pine stands, and the resulting tree mortality, has recently been devised by Dr. Sam Alexander at Virginia Polytechnic Institute and State University. Two survey methods were developed for the annosus sampling procedure: the Twenty Plot Method (TPM) is based on a constant number of plots; the Site Specific Method (SSM) has a sampling frequency that is determined by the variation in the incidence of annosus root rot on one site. Each method begins with systematic location of a predetermined number of four tree plots. A soil-root-sample (SRS) is taken at the center of each plot and the percentage of roots infected by *Heterobasidion annosum* as determined by root symptoms is calculated. Each four-tree plot is part of a larger rectangular plot which is used to

determine tree growth, mortality, basal area, site index, volume of standing timber, and the presence of other diseases and insects. A total of 5 percent of the stand area is sampled by the rectangular plots.

The simplest method is the TPM where 20 plots are systematically located in each stand. However, in many instances the variation in incidence of annosus root rot in the plantation is low, therefore, fewer than 20 plots may be sufficient for a high level of confidence in the estimate. When this is the case, the SSM may be used. To use the SSM, the variation in the amount of disease is calculated after the establishment of 10 four-tree plots. From this, the number of plots required for a specific level of confidence is calculated.

The sampling procedure is part of a total Annosus Management System (AMS) currently being developed at V.P.I. & S.U. The AMS encompasses all aspects of soil, site and stand characteristics associated with annosus root rot. Also included are the impacts on growth and mortality, recommendations for annosus root rot management, including cost effectiveness of different management approaches, and incorporation of annosus root rot impacts in growth and yield models. This system is being developed in cooperation with Drs. R. H. Hokans and R. G. Oderwald, School of Forestry and Wildlife Resources, V.P.I. & S.U.

For further information concerning the application and utilization of the Annosus Management System, contact Dr. Sam Alexander, Forest Pathology Lab, Department of Plant Pathology and Physiology, V.P.I. & S.U., Blacksburg, VA 24061.

SC Demo Project Holds Annosus Workshop

Annosus root rot continues to present a threat to thinned pine plantations in many areas of the South. To help answer foresters' concerns, the South Carolina IPM demonstration project designed and conducted a workshop to provide information and guidelines for effectively dealing with annosus root rot in management decisionmaking. Over 40 foresters and pest management specialists were in attendance. Subjects covered in the May 23 workshop included: disease identification, hazard rating, stand sampling to determine percentage of diseased roots, control methods, and economic analysis of a preventive treatment.

Dr. Donald L. Ham, principal investigator for the Program-sponsored project and Extension Forester at Clemson University, served as workshop coordinator. Others on the program included Dr. Sam Alexander, Virginia Polytechnic Institute and State University, and Bob Anderson, Forest Pest Management, Asheville, NC.

Texas Seminar Focuses on New Challenges

The second decade of the East Texas Forest Entomology seminar was launched April 26 – 27, 1984, at Kurth Lodge in East Texas. Initiated in October 1973, the symposium series has served as an informal and effective means of communication among research workers, pest management specialists, and university professors and graduate students involved in all aspects of forest pest research and applications. Highlights of the 10th Anniversary meeting held last October were published in a proceedings entitled "History, Status, and Future Needs for Entomology Research in Southern Forests" edited by T. L. Payne, R. F. Billings, R. N. Coulson, and D. L. Kulhavy. A limited number of copies is available from Dr. T. L. Payne, Department of Entomology, Texas A&M University, College Station, TX 77843.

The April seminar revolved largely around topics dealing with host susceptibility to attack by southern pine beetle. Presentations were given by Dr. Rex Cates, University of New Mexico; Dr. F. M. Stephen, University of Arkansas; Dr. Peter J. H. Sharpe, Texas A&M University; Dr. J. R. Bridges, U.S. Forest Service, and Richard Flamm, Texas A&M. Other presentations were by Dr. R. F. Billings, Texas Forest Service; Dr. Don Kinn, U.S. Forest Service; Karen Wilson, Stephen F. Austin University; Scott Salom, University of Arkansas, and Kieron Walsh and Michael Saunders, Texas A&M University.

BTB and *Ips* Bibliography Published

The Florida Agricultural Experiment Station recently published an "Annotated Bibliography of *Dendroctonus terebrans* (Olivier), *Ips avulsus* (Eichhoff), *Ips grandicollis* (Eichhoff), and *Ips calligraphus* (Germar) in the Southeastern U.S.A." For this publication, authors John Foltz, Ed Merkel, and Bob Wilkinson collected and reviewed taxonomic and biological papers spanning the years from 1795 through 1982. Altogether, 466 papers are annotated and indexed by author, subject, and bark beetle species. Copies of the 47-page bibliography can be obtained from John Foltz, Department of Entomology and Nematology, University of Florida, Gainesville, FL 32611.

All citations in the bibliography are part of the ongoing bark beetle publications classification and retrieval system maintained by the authors on the University of Florida computer. Persons interested in special searches of the older BTB and *Ips* literature may contact John to arrange for a topic bibliography.

Hertel Named New Program Manager for Gypsy Moth

Gerry Hertel will be the new Program Manager for the accelerated gypsy moth research program at the Northeastern Forest Experiment Station, headquartered in Broomall, Pennsylvania, effective June 11, 1984. In his new position, he will be concerned with organizing, coordinating, and reporting on research by Forest Service and university scientists. Subject matter areas include biological and socioeconomic impacts, parasites, predators, and diseases used to control moth populations, and the silvicultural management of hardwood stands to reduce growth loss and tree mortality.

Gerry has served as Applications Coordinator for the IPM Program since October 1980. Prior to that, he worked with the Expanded Southern Pine Beetle R&D Program, with the Southeastern Area State and Private Forestry, and at the Southeastern Forest Experiment Station. Gerry has had extensive experience with southern forest pest problems. He is particularly well-known in the South for his leadership in applied studies and technology transfer.

We wish you well in your new assignment, Gerry.

SPB Hazard Rating Programs Available

Robert J. Uhler, computer specialist, S&PF Forest Pest Management, Doraville, Georgia, has assembled recommended SPB hazard rating systems into a simple computer program for use on Apple II and Apple II look alikes. The program includes Arkansas Hazard, for use in Arkansas; Texas Hazard, for use in Texas and Louisiana; Mississippi Hazard B, for use in Mississippi and Alabama; Piedmont Hazard, for use in the Piedmont regions of the Southeast, and Mountain Hazard, for the Southern Appalachians.

Copies of the program and explanatory material can be obtained by sending a blank diskette to Wesley A. Nettleton, S&PF Forest Pest Management, USDA Forest Service, Pineville, LA 71360.

SPB Fact Sheets Updated

Revisions of three southern pine beetle Fact Sheets have recently been released. Fact Sheet #3, "Setting Control Priorities for SPB" (Forestry Bulletin R8-FB/P8), #5, "Insecticides for the SPB" (Forestry Bulletin R8-FB/P3), and #21, "Silviculture: A Means of Reducing Losses from SPB" (Forestry Bulletin R8-FB/P7), were all updated and reissued in April. Copies of the new versions may be obtained from USDA Forest Service, Southern Region, 1720 Peachtree Road, NW, Atlanta, GA 30367.

New Aerial Survey Publication Released

A new handbook entitled "How to Conduct a Southern Pine Beetle Aerial Detection Survey" has just been released by the Texas Forest Service.

Coauthored by Ron Billings and Denny Ward, the handbook describes the purpose of aerial detection surveys and how to plan and conduct them, including detailed information on equipment, aircraft, maps and plans, flight scheduling, plotting infestations, reporting information, and attributes of an effective aerial observer.

The new publication was produced with IPM Program support, and copies may be obtained by writing: Southern Region, U.S. Forest Service, 1720 Peachtree Rd., NW, Atlanta, GA 30367.

Pest Management Specialists Honored

Elsewhere in the Pest Management News we summarized a cooperative training effort conducted by the IPM Program and Region 8. Mike Connor, Bill Hoffard, Ken Swain, Bob Uhler, and Clair Redmond of Forest Pest Management received Certificates of Merit and cash awards from the Southern Forest Experiment Station for their efforts which helped to make the workshops a success and which were well beyond their required duties. These specialists were recognized "for assisting the IPM Program in delivering its technology to Federal and State Pest Management Specialists." Thanks, FPM!

Wilson Honored for IPM Program Efforts

Julie Wilson, Administrative Assistant to the Program Manager and Secretary for the IPM Program staff, was recently cited by the Southern Station for her outstanding clerical support. In presenting her with a Certificate of Merit and cash award, Program Manager Robert Thatcher stated that: "Julie has made it possible for us to meet many of our users' needs on a timely basis. Her knowledge of the Program and the many people we deal with and her cheerful manner have contributed greatly to any success we have had in our relations with the public."

Thatcher reiterated: "She's a real team member."

Other Publications

Billings, R. F. Forest pests in east Texas: past approaches, future challenges. *In*: Payne, T. L., Billings, R. F., Coulson, R. N., Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar; 1983 October 6–7. Kurth Lake, TX. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University; 1984. p. 1–5.

Coulson, R. N. Population dynamics. *In*: Payne, T. L., Billings, R. F., Coulson, R. N., Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar; 1983 October 6–7. Kurth Lake, TX. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University; 1984. p. 30–35.

Hertel, G. D.; Mason, G. N. Technical applications. *In*: Payne, T. L., Billings, R. F., Coulson, R. N., Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar; 1983 October 6–7. Kurth Lake, TX. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University, 1984. p. 36–39.

Kulhavy, D. L. Hazard rating and site/stand factors. *In*: Payne, T. L., Billings, R. F., Coulson, R. N., Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar; 1983 October 6–7. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University; 1984. p. 24–29.

Nebeker, T. E.; Blanche, C. A.; DeAngelis, J. Host, bark beetle, and microorganism interactions. *In*: Payne, T. L., Billings, R. F., Coulson, R. N., and Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar; 1983 October 6–7. Kurth Lake, TX. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University; 1984. p. 19–23.

Payne, T. L. Behavior. *In*: Payne, T. L., Billings, R. F., Coulson, R. N., Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar. 1983 October 6–7. Kurth Lake, TX. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University; 1984. p. 10–18.

United States
Department of Agriculture
Forest Service

**Southern Forest
Experiment Station**

701 Loyola Ave. Rm. T-10210
New Orleans, LA 70113

BULK RATE
U.S. Postage Paid
Permit No. 005-007
New Orleans, LA 70113

OFFICIAL BUSINESS
Penalty for Private Use, \$300

055-050-0 99-99
NATL AGRICULTURAL LIBRARY
TIS/SEA/USDA
EXCHANGE UNIT RM 004
BELTSVILLE MD 20705

Payne, T. L.; Billings, R. F.; Coulson, R. N.; Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar; 1983 October 6-7. Kurth Lake, TX. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University; 1984. 72 p.

Thatcher, R. C. Accelerated research and applications programs. In: Payne, T. L., Billings, R. F., Coulson, R. N., Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar; 1983 October 6-7. Kurth Lake, TX. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University; 1984. p. 6-9.

Wagner, T. L. *Ips* species and the black turpentine beetle. In: Payne, T. L., Billings, R. F., Coulson, R.

N., Kulhavy, D. L., eds. History, Status, and Future Needs for Entomology Research in Southern Forests. Proc. Tenth Anniversary East Texas Forest Entomology Seminar; 1983 October 6-7. Kurth Lake, TX. Tex. Agr. Exp. Sta. Misc. Pub. 1553. College Station, TX: Texas A&M University; 1984. p. 62-66.

Wagner, T. L.; Wu, H.; Sharpe, P.J.H.; Schoolfield, R. M.; Coulson, R. N. Modeling insect development rates: a literature review and application of a biophysical model. Ann. Entomol. Soc. Amer. 77: 208-225, 1984.

Younan, E. G.; Hain, F. P. Sequence of arrival of insects associated with severed pines during a collapsing southern pine beetle epidemic. North Carolina Agr. Res. Serv. Tech Bull. 277. Raleigh, NC: North Carolina Agricultural Research Service and North Carolina State University; 1984. 28 p.

